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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/644,209

08/20/2003

James Arthur Fisher

TUC920030082US1

8878

46244 7590 12/21/2005

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EXAMINER

GANDHI, DIPAKKUMAR B

ART UNIT

PAPER NUMBER

2138

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/644,209	Applicant(s) FISHER ET AL.	
	Examiner Dipakkumar Gandhi	Art Unit 2138	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/20/2003</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Objections*

1. Claim 8 is objected to because of the following informalities: in line 2 of claim 8, "storage media said physical storage volume" is incorrect. It should be --storage media in said physical storage volume--. Appropriate correction is required.
2. Claim 11 is objected to because of the following informalities: in line 8 of claim 11, "teat media commands" is incorrect. It should be --test media commands--. Appropriate correction is required.
3. Claim 14 is objected to because of the following informalities: in line 10 of claim 14, "one if said" is incorrect. It should be --one of said--. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1, 2, 5, 6, 7, 8, 14, 18, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taki et al. (US 6,088,182) in view of Kanazawa (US 5,561,530).

As per claim 1, Taki et al. teach a) inserting a physical storage volume into an input area in a storage device; b) scanning an input area on said physical storage volume; c) moving said physical storage volume to a drive capable of testing storage media in said physical storage volume; and e) returning

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tested said physical storage volume to said input area (fig. 7, 8, 9, col. 1, lines 26-33, col. 9, line 66 to col. 10, line 21, col. 10, line 56 to col. 11, line 16, Taki et al.).

However Taki et al. do not explicitly teach the specific use of a method of testing storage media in a storage device.

Kanazawa in an analogous art teaches a method of magnetic recording using a magnetic recording medium, such as a magnetic tape, including a step of testing characteristics of the magnetic medium by recording a test signal (col. 1, lines 6-9, Kanazawa).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taki et al.'s patent with the teachings of Kanazawa by including an additional step of using a method of testing storage media in a storage device.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that using a method of testing storage media in a storage device would provide the opportunity to detect errors in the storage media before recording on the storage media.

- As per claim 2, Taki et al. and Kanazawa teach the additional limitations.

Taki et al. teach i) selecting storage media; ii) selecting an input area for inserting said physical storage volume; iii) inserting said physical storage volume into said selected input area (fig. 7, col. 9, line 66 to col. 10, line 5, Taki et al.).

Kanazawa teaches iv) waiting to start testing (fig. 1, col. 6, lines 19-20, col. 8, lines 23-24, Kanazawa).

- As per claim 5, Taki et al. and Kanazawa teach the additional limitations.

Taki et al. teach scanning the input area further comprises queuing scanned physical storage volumes for testing (fig. 9, col. 10, line 66 to col. 11, line 16, Taki et al.).

- As per claim 6, Taki et al. and Kanazawa teach the additional limitations.

Taki et al. teach that step (c) of moving said physical storage volume comprises fetching a command and moving said physical storage volume responsive to said command (fig. 7, col. 10, lines 12-21, Taki et al.)

Kanazawa teaches a test media command (fig. 1, col. 6, lines 19-20, col. 8, lines 23-24, Kanazawa).

- As per claim 7, Taki et al. and Kanazawa teach the additional limitations.

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Taki et al. teach i) determining if additional physical storage volumes are inserted for testing (fig. 14, col. 15, line 63 to col. 16, line 1, Taki et al.).

Kanazawa teaches testing any remaining inserted said physical storage volumes (col. 1, lines 6-9, Kanazawa).

- As per claim 8, Taki et al. and Kanazawa teach the additional limitations.

Kanazawa teaches that said storage media in said physical storage volume tested in step (c) is tested without inserting logical volumes on tested said storage media into a data library (col. 6, lines 19-25, Kanazawa).

- As per claim 14, Taki et al. and Kanazawa teach the additional limitations.

Taki et al. teach a storage subsystem for storing and administering data in a data library, said storage subsystem comprising: a bulk input rack storing removable storage media and test storage media; a plurality of storage media drive units accessing data stored on said removable storage media; an accessor selectively moving ones said removable storage media and said test storage media to a selected one of said one or more drive units; a visual input unit reading media identification information on selected said removable storage media and said test storage media (fig. 7, 8, 9, col. 9, line 66 to col. 10, line 22, col. 10, line 56 to col. 11, line 16, Taki et al.).

Kanazawa teaches storage subsystem capable of testing removable storage media and at least one of said plurality of storage media drive units testing a selected said test storage media (fig. 1, 2, col. 1, lines 6-9, col. 1, lines 51-55, col. 2, lines 39-40, Kanazawa).

- As per claim 18, Taki et al. and Kanazawa teach the additional limitations.

Taki et al. teach a storage subsystem, wherein said removable storage media and test storage media are magnetic tape on magnetic tape cartridges (col. 1, lines 40-43, Taki et al.).

- As per claim 19, Taki et al. and Kanazawa teach the additional limitations.

Taki et al. teach a storage subsystem, wherein visual input unit is a bar code scanner scanning a bar code label on each of said magnetic tape cartridges (fig. 9, col. 11, lines 6-16, Taki et al.).

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7. Claims 3, 4, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taki et al. (US 6,088,182) and Kanazawa (US 5,561,530) as applied to claim 2 above, and further in view of Tadokoro et al. (US 6,539,459 B1).

As per claim 3, Taki et al. and Kanazawa substantially teach the claimed invention described in claim 2 (as rejected above).

However Taki et al. and Kanazawa do not explicitly teach the specific use of determining whether a library manager is in automatic mode.

Tadokoro et al. in an analogous art teach a library system or an auto-changer system (col. 1, lines 18-20, Tadokoro et al.). Tadokoro et al. also teach a method for setting an operating mode in a library device (col. 3, lines 1-2, Tadokoro et al.).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taki et al.'s patent with the teachings of Tadokoro et al. by including an additional step of determining whether a library manager is in automatic mode.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that determining whether a library manager is in automatic mode would provide the opportunity to perform testing the storage media before recording.

- As per claim 4, Taki et al., Kanazawa and Tadokoro et al. teach the additional limitations.

Tadokoro et al. teach the step of v) indicating that said library manager must be in automatic mode before proceeding to scanning step (b), (col. 1, lines 18-20, col. 3, lines 1-2, Tadokoro et al.).

- As per claim 10, Taki et al., Kanazawa and Tadokoro et al. teach the additional limitations.

Tadokoro et al. teach f) inserting logical volumes on tested said storage media into a data library, inserted logical volumes in said data library being accessible by host devices (fig. 6, col. 11, lines 5-8, col. 13, lines 30-38, col. 14, lines 55-56, col. 15, lines 41-45, col. 18, lines 37-40, Tadokoro et al.).

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taki et al. (US 6,088,182) and Kanazawa (US 5,561,530) as applied to claim 1 above, and further in view of Wiley et al. (US 5,579,234).

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As per claim 9, Taki et al. and Kanazawa substantially teach the claimed invention described in claim 1 (as rejected above).

However Taki et al. and Kanazawa do not explicitly teach the specific use of a method, wherein test results are reported to an operator.

Wiley et al. in an analogous art teach that indication means includes a printer circuit for printing a written report of the test result for the operator (col. 24, lines 22-24, Wiley et al.).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taki et al.'s patent with the teachings of Wiley et al. by including an additional step of using a method, wherein test results are reported to an operator.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that using a method, wherein test results are reported to an operator would provide the opportunity to inform the operator the errors present in the storage media and the operator can use another storage media for recording.

9. Claims 11, 12, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taki et al. (US 6,088,182) in view of Kanazawa (US 5,561,530), Wiley et al. (US 5,579,234) and Yadav et al. (US 5,774,725).

As per claim 11, Taki et al. teach managing and administering data in a data library, data in said data library being stored on removable storage media (col. 1, lines 26-33, Taki et al.); scanning an input area on test storage media (fig. 9, col. 10, line 56 to col. 11, line 16, Taki et al.) and moving said scanned removable storage media to an input area (col. 10, lines 12-22, Taki et al.).

However Taki et al. do not explicitly teach the specific use of testing storage media independent of inclusion in a data library, queuing corresponding test media commands for scanned said test storage media, selectively testing scanned said test storage media and storage media are tested without being inserted into said data library.

Kanazawa in an analogous art teaches a method of magnetic recording using a magnetic recording medium, such as a magnetic tape, including a step of testing characteristics of the magnetic medium by recording a test signal (col. 1, lines 6-9, Kanazawa). Kanazawa also teaches that prior to recording, a test

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signal is recorded and reproduced to assess or determine the frequency characteristics of the tape, and an equalizer or the like in the recording circuit is controlled in accordance with the result of the assessment (fig. 1, 2, col. 1, lines 51-55, Kanazawa). Kanazawa teaches a test signal generator for generating a test signal comprising at least one test frequency (fig. 1, col. 2, lines 39-40, Kanazawa).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taki et al.'s patent with the teachings of Kanazawa by including an additional step of testing storage media independent of inclusion in a data library, queuing corresponding test media commands for scanned said test storage media, selectively testing scanned said test storage media and indicating test results and storage media are tested without being inserted into said data library.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that it would provide the opportunity to detect errors in the storage media before recording on the storage media.

Taki et al. also do not explicitly teach the specific use of indicating test results.

However Wiley et al. in an analogous art teach that the autotest system...an error is detected (col. 2, lines 31-36, Wiley et al.).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taki et al.'s patent with the teachings of Wiley et al. by including an additional step of indicating test results.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that indicating test results would provide the opportunity to inform the operator the errors present in the storage media and the operator can use another storage media for recording.

Taki et al. also do not explicitly teach the specific use of a computer program product comprising a computer usable medium having computer readable program code.

However Yadav et al. in an analogous art teach a computer usable medium having computer readable program code means embodied in said medium (col. 14, lines 55-56, Yadav et al.).



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Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taki et al.'s patent with the teachings of Yadav et al. by including an additional step of using a computer program product comprising a computer usable medium having computer readable program code.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that using a computer program product comprising a computer usable medium having computer readable program code would provide the opportunity to perform the testing method fast and accurately.

- As per claim 12, Taki et al., Kanazawa, Wiley et al. and Yadav et al. teach the additional limitations.

Taki et al. teach selecting said scanned test storage media stored in said input area and directing transport of selected said scanned test storage media from said input area to a media drive (fig. 7, 8, 9, col. 10, lines 12-22, col. 10, line 56 to col. 11, line 16, Taki et al.).

Kanazawa teaches testing media in said media drive (col. 1, lines 6-9, Kanazawa).

- As per claim 13, Taki et al., Kanazawa, Wiley et al. and Yadav et al. teach the additional limitations.

Taki et al. teach determining whether all said scanned test storage media has been tested (fig. 14, col. 15, line 63, to col. 16, line 1, Taki et al.).

Kanazawa teaches selecting a next said scanned test storage media responsive to a determination that all said scanned test storage media have not been tested (col. 1, lines 6-9, Kanazawa).

10. Claims 15, 16, 17, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taki et al. (US 6,088,182) and Kanazawa (US 5,561,530) as applied to claim 14 above, and further in view of Fisher et al. (US 6,247,096 B1).

As per claim 15, Taki et al. and Kanazawa substantially teach the claimed invention described in claim 14 (as rejected above).

However Taki et al. and Kanazawa do not explicitly teach the specific use of a storage subsystem, further comprising; a virtual media server maintaining virtual drives and a virtual server database, said virtual

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drives containing library data from said removable storage media; and a library manager controlling said accessor and maintaining a library manger database.

Fisher et al. in an analogous art teach that virtual media server tape library... storage cells (fig. 1, 2, col. 1, line 60 to col. 2, line 4, col. 4, lines 4-8, Fisher et al.).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Taki et al.'s patent with the teachings of Fisher et al. by including an additional step of using a storage subsystem, further comprising; a virtual media server maintaining virtual drives and a virtual server database, said virtual drives containing library data from said removable storage media; and a library manager controlling said accessor and maintaining a library manger database.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized that it would provide the opportunity to provide automatic management of tape data storage.

- As per claim 16, Taki et al., Kanazawa and Fisher et al. teach the additional limitations.

Kanazawa teaches that the library manger automatically selects and tests said test storage media (fig. 1, 2, 3, col. 1, lines 6-9, col. 1, lines 51-55, col. 2, lines 39-40, col. 8, lines 65-67, Kanazawa).

- As per claim 17, Taki et al., Kanazawa and Fisher et al. teach the additional limitations.

Fisher et al. teach a storage subsystem, further comprising an input/output (I/O) station for operator input (fig. 2, col. 3, lines 65-67, col. 4, lines 4-6, Fisher et al.).

- As per claim 20, Taki et al., Kanazawa and Fisher et al. teach the additional limitations.

Fisher et al. teach a storage system including a storage subsystem, said storage system connectable to a network (fig. 1, network 60 in fig. 2, col. 1, lines 14-15, Fisher et al.) and further comprising: at least one host system interfaced with said storage subsystem (fig. 2, col. 2, lines 59-60, Fisher et al.); a configuration database associating removable storage volumes in said storage subsystem coupled to said host system (fig. 2, col. 5, lines 9-15, Fisher et al.); and a management database providing data management information for data on said removable storage volumes (fig. 2, col. 5, lines 2-5, Fisher et al.).

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Kanazawa teaches that each said selected test storage media being tested transparently to each said host system (fig. 1, 2, 3, col. 1, lines 6-9, col. 1, lines 51-55, col. 2, lines 39-40, col. 8, lines 65-67, Kanazawa).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dipakkumar Gandhi whose telephone number is 571-272-3822. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on (571) 272-3819. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dipakkumar Gandhi  
Patent Examiner



GUY LAMARRE  
PRIMARY EXAMINER

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